




StoBrick
Insulated brick facades

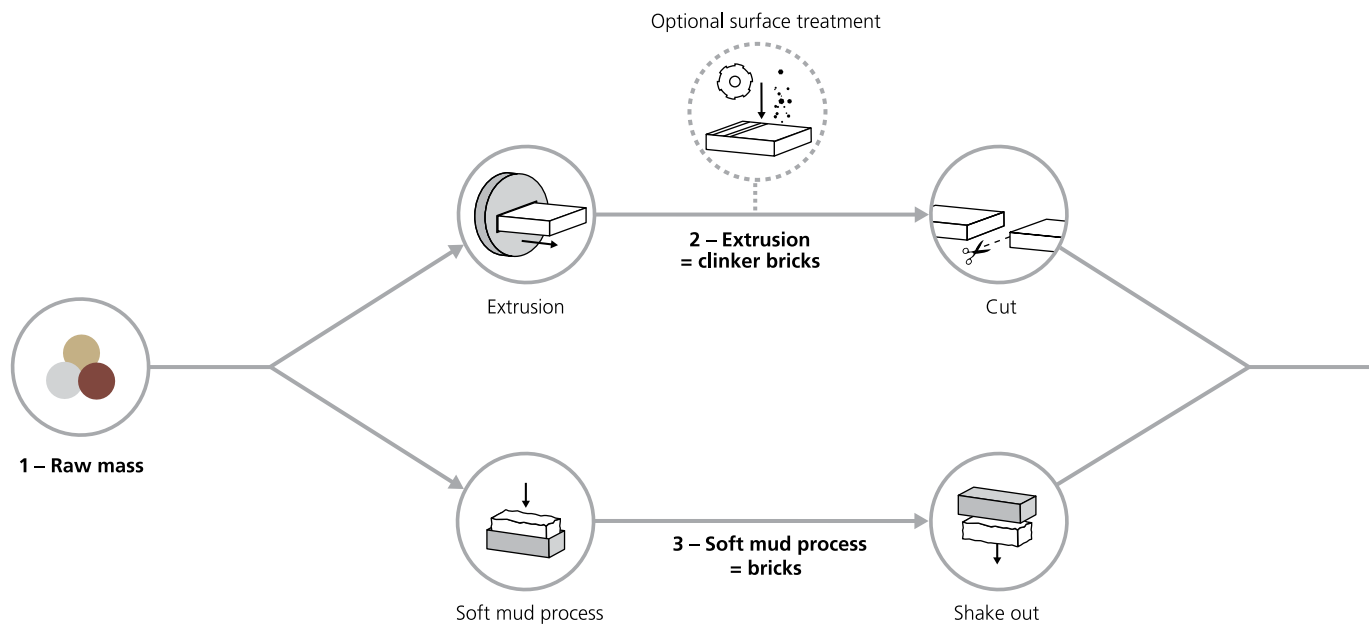
Please note that the details, illustrations, general technical information, and drawings contained in this brochure are only general proposals and details which merely describe the basic functions schematically. They are not dimensionally accurate. The applicator/customer is solely responsible for determining the suitability and completeness of the products used for the respective construction project. Neighbouring works are described only schematically. All specifications and information must be adjusted or agreed in the light of local conditions and do not constitute work, detail, or installation plans. The technical specifications and product information included in the Technical Data Sheets and system descriptions/approvals must be observed.



Our bricks

The raw material which forms the basis of bricks is known as loam: a mixture of sand, silt, and clay. Of these constituents, clay plays a crucial role in determining the material's properties after the obligatory firing process. The inclusion of various different aggregates affects the fired result in terms of its final colour scheme.

Manufacture and material design



Manufacturing bricks (simplified version)

1 – Raw mass

Loam is the raw material which makes up bricks; its clay content plays a crucial role in determining the properties of the product after the firing process. The choice of raw material and the additional aggregates already have a strong influence on the appearance of the end product.

Factors influencing the design:

Raw material: red-firing and yellow-firing clays; white-firing clay relatively rarely

Aggregate: mixed into the raw mass

Examples:

- Iron – red
- Calcium – light yellow (oxidation); green (reduction)
- Titanium – yellow (e.g. sunflower)
- Chrome – violet (e.g. aubergine) or grey
- Manganese – brown, grey, or black
- Sawdust – pores in material and on the surface (due to firing)

2 – Extrusion

(Manufacturing process for high-density "clinker" bricks)

Extrusion involves pressing the raw mass through the die under high pressure. This produces a long, smooth strand.

Factors influencing the design:

Die: specifies the width and height

Surface treatment, mechanical: the damp, smooth strand can be embossed sporadically by treating the surface and/or edge.

Surface treatment, aggregates: these are applied to the damp strand.

Examples:

- Fused patches (salts or coal) – sintered, glossy efflorescence (glassy finish), baked, cinder-like or partially crater-like scorch marks
- Sand – sandy surface

Cutting: the first long strand is cut to size. The extrusion process makes it easy to create extremely long formats.

3 – Soft mud process

(Manufacturing process for bricks)

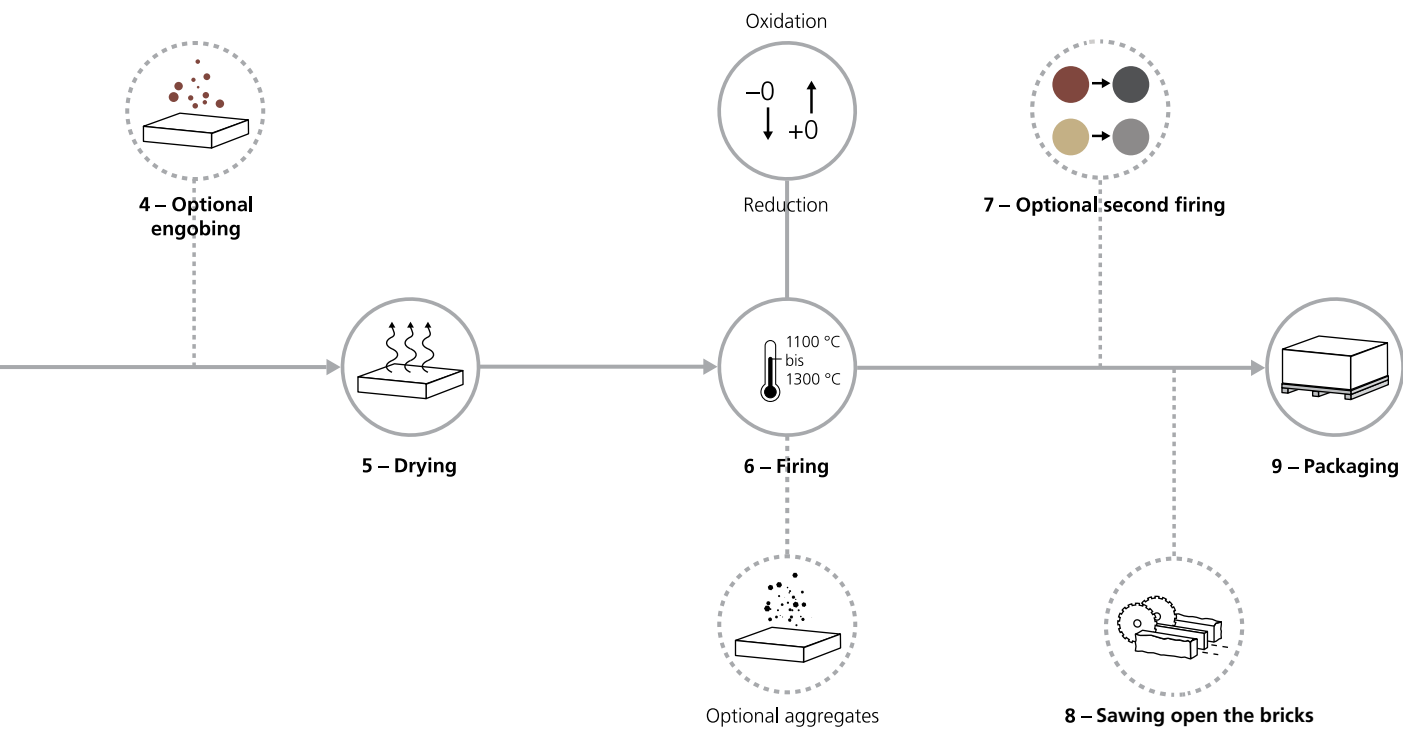
The soft mud process involves pressing the raw mass into casting moulds and then shaking it out.

Factors influencing the design:

Pressing the raw mass: pressing into the casting mould produces distinctive, uneven crease marks and/or crimped/raised edges and ridges.

Releasing: once the blank has been formed, a release agent is required to release it. The two commonly-available processes result in two different characteristics:

- Sand-struck – the inside of the press mould is sprinkled with sand. This results in friction marks from the sand on the surfaces of the bricks.
- Water-struck – water is applied to the casting moulds. This typically results in a smoother surface with vertical score marks and a scratched texture on the lateral faces.



4 – Engobing

An engobe is a ceramic coating made of a different-coloured clay, which is applied before the brick dries.

Factors influencing the design:

Choice of engobe: change in colouring (opaque covering or translucent)

Type of application: full or selective coverage

5 – Drying

After they have been shaped, the fresh bricks are dried out to reduce the water content. Insufficient drying shrinkage can lead to warping and crack formation later in the firing process.

6 – Firing process

The bricks are fired at temperatures of between 1,100 and 1,300 °C.

Factors influencing the design:

Temperature and firing time: the higher the temperature or longer the firing time, the darker the product.

Selective flame treatment: results in areas of darker colouring.

Oxidation/Reduction: the colouring can also be affected by the addition (oxidation) or removal (reduction) of oxygen during the firing process. The effect depends on the raw mass (see raw mass, aggregates).

Aggregates: aggregates can be applied right at the beginning of the process chain or during the firing process. Applying during the firing process produces seemingly random results.

7 – Second firing

Bricks which have already been fired are heated again to between 900 and 1,000 °C in a special batch furnace before being cooled in a reductive atmosphere (without oxygen). This extracts oxygen from the clay minerals.

Factors influencing the design:

The brick pieces obtain a grey to black colour or colouring depending on the raw mass used.

8 – Sawing open the bricks

Bricks produced in the soft mud process are sawn apart.

9 – Packaging

The bricks are packed onto pallets in batches per firing process. This is why it's important to mix up the various pallets when laying the bricks for large construction projects, in order to avoid noticeable colour clusters in the building.









StoBrick basic range

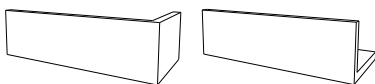
A wide range of different factors determine the surface and colour of bricks. This offers scope for a whole host of design possibilities to suit your individual building surface.

The functional classification of our basic range makes it easier for you to choose the ideal surface for your facade concept.

Details:

- Range classification: four groups of high-density "clinker" bricks, one group of bricks
- Per group: ten colours typical for that material
- Brick thicknesses: 11 - 25 mm (other thicknesses available on request)
- In addition to the standard formats, other formats – including corner solutions – are available on request
- Formats and surfaces can be combined with one another
- Bricks suitable for application on EWIS

Process	High-density "clinker" brick (extrusion)	
Name	StoBrick Smoothed (100)	StoBrick Smoothed blended (200)
Detail view (Viewing distance approx. 0.5 m)		
Product section (Viewing distance approx. 1.5 m)		
Colour spectrum of range gloss level	 matt/silk matt	 matt/sporadically silk gloss
Format	 240 x 71 x 11 mm* (NF)	 240 x 71 x 11 mm* (NF)



* Matching corner solutions available. More information is available online in our StoBrick product range catalogue.

Brick (soft mud process)

StoBrick Glazed (300)



matt/silk matt, sporadically gloss
(fused patches)



240 x 52 x 14 mm* (DF)



440 x 52 x 14 mm* (DF LF)

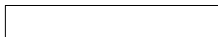
StoBrick Sanded (400)



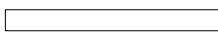
matt



240 x 71 x 14 mm* (NF)



400 x 71 x 14 mm* (LF)



400 x 35 x 14 mm* (RF)

StoBrick Brushed (500)



matt



228 x 54 x 25 mm*

StoBrick basic range

StoBrick Smoothed (100)



100



110



120



130



140



150



160



170



180

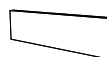


190

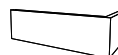
Properties

Manufacturing process:	Extrusion
Surface:	Fine texture
Colouring:	Monochrome
Gloss level:	Matt/silk matt
Edges:	Even, slightly rounded
Rear side:	Longitudinal grooves

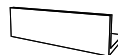
Formats and corner solutions



240 x 71 x 11 mm (NF)



240/115 x 71 x 11 mm



240 x 115/71 x 11 mm

StoBrick Smoothed blended (200)



200



210



220



230



240



250



260



270



280

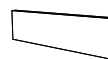


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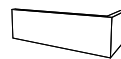
Properties

Manufacturing process:	Extrusion
Surface:	Fine texture
Colouring:	Changing monochrome
Gloss level:	Matt/sporadically silk gloss
Edges:	Even, slightly rounded
Rear side:	Longitudinal grooves

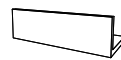
Formats and corner solutions



240 x 71 x 11 mm (NF)



240/115 x 71 x 11 mm



240 x 115/71 x 11 mm

StoBrick basic range

StoBrick Glazed (300)



300



310



320



330



340



350



360



370



380

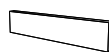


390

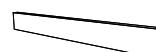
Properties

Manufacturing process: Extrusion
 Surface: Fine texture, vertical press structures, sporadic fused patches (glossy efflorescence due to particles fused in the firing process)
 Colouring: Monochrome/changing monochrome
 Gloss level: Matt/silk matt, sporadically gloss (fused patches)
 Edges: Uneven, wavy, slightly rounded
 Rear side: Longitudinal grooves

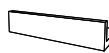
Formats and corner solutions



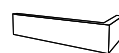
240 x 52 x 14 mm (DF)



440 x 52 x 14 mm (DF LF)

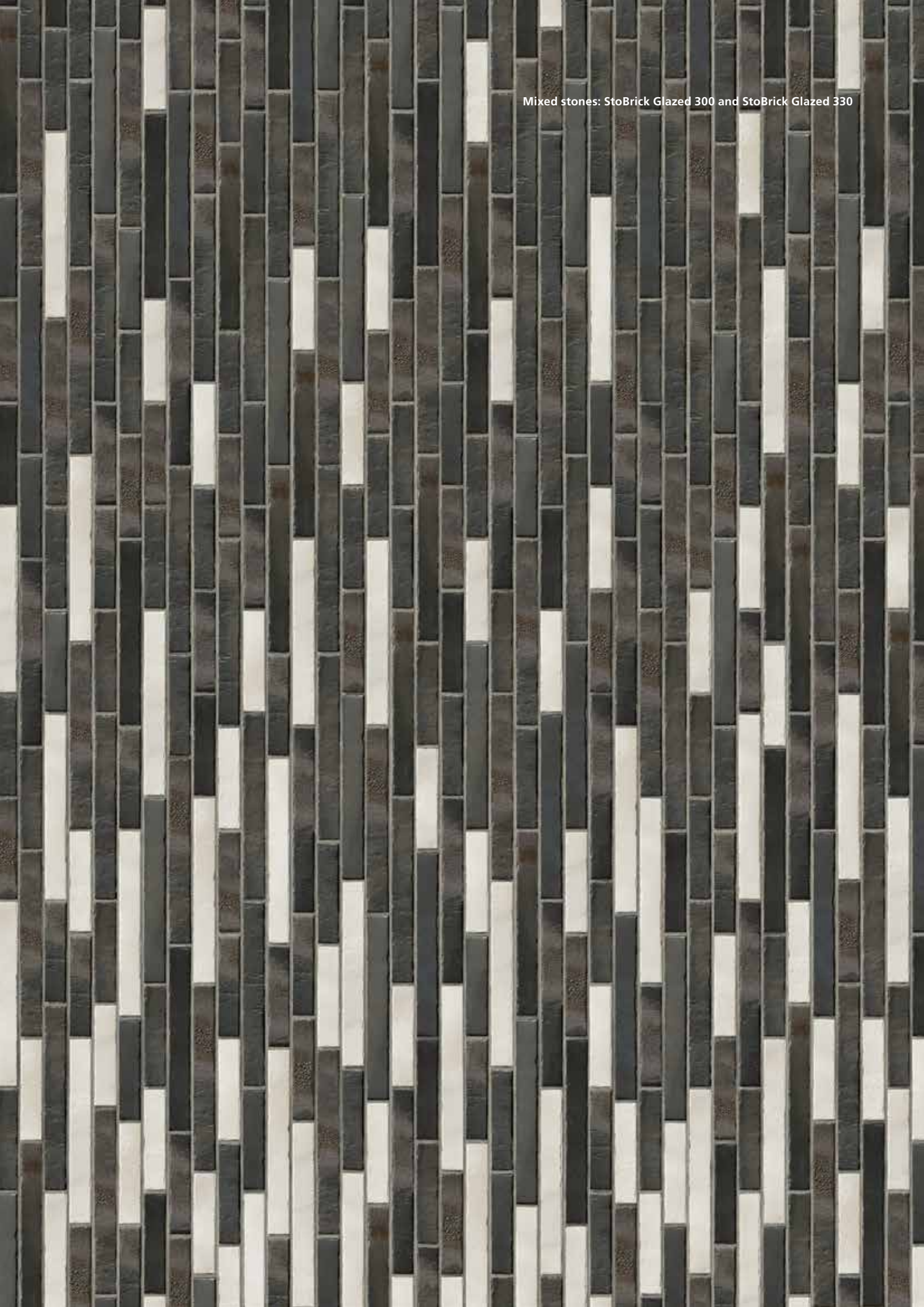


240 x 115/52 x 14 mm



240/115 x 52 x 14 mm

Mixed stones: StoBrick Glazed 300 and StoBrick Glazed 330



StoBrick basic range

StoBrick Sanded (400)



400



410



420



430



440



450



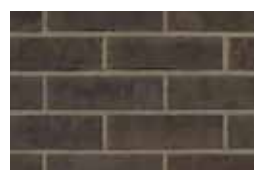
460



470



480

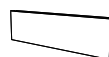


490

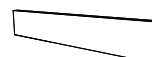
Properties

Manufacturing process: Extrusion
 Surface: Rough texture, sandy, vertical press texture
 Colouring: Monochrome/changing polychrome
 Gloss level: Matt
 Edges: Uneven, wavy, slightly rounded
 Rear side: Longitudinal grooves

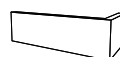
Formats and corner solutions



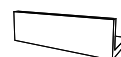
240 x 71 x 14 mm (NF)



400 x 71 x 14 mm (LF)



240/115 x 71 x 14 mm



240 x 115/71 x 14 mm



400 x 35 x 14 mm (RF)



240/115 x 35 x 14 mm

StoBrick Brushed (500)



500



510



520



530



540



550



560



570



580



590

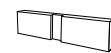
Properties

Manufacturing process:	Soft mud process, water-struck
Surface:	Fine texture, sporadically porous, vertical score marks
Colouring:	Changing monochrome
Gloss level:	Matt
Edges:	Uneven, bead-like
Rear side:	Sawn, smooth

Formats and corner solutions



228 x 54 x 25 mm



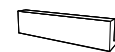
228 x 54 x 25 mm



228/105 x 54 x 25 mm



108 x 54 x 25 mm



228 x 108/54 x 25 mm

Reference projects



Bottom left:

Urban villa, DE-Hamburg
Architect: BN ARCHITEKTEN, DE-Hamburg

Top left:

DSB office and commercial premises, DK-Viborg
Architect: KPF ARCHITEKTER, DK-Viborg

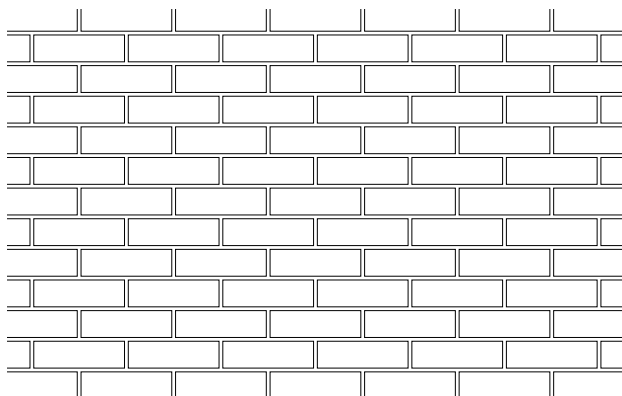
Right:

KÖLNCUBUS office building, DE-Cologne
Architect: ASTOC GmbH & Co. KG, DE-Cologne

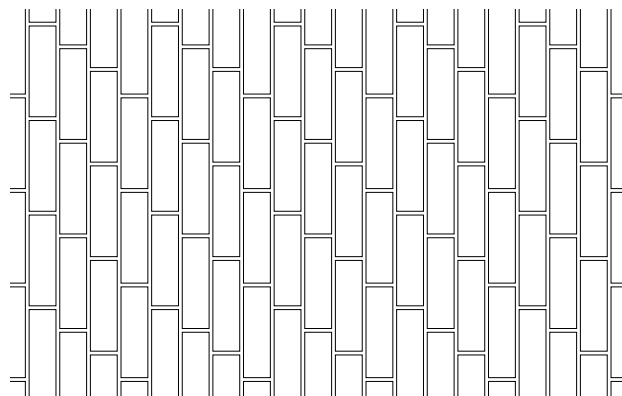




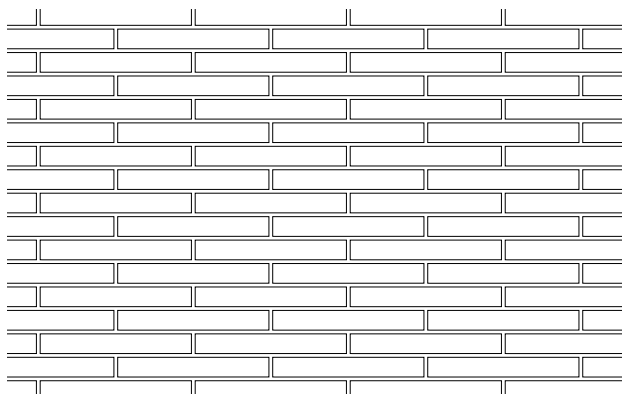
From bond to pattern



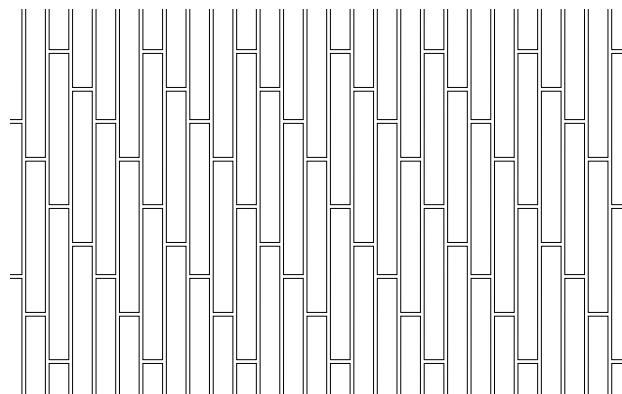
NF stretcher bond 1/2 offset, horizontal



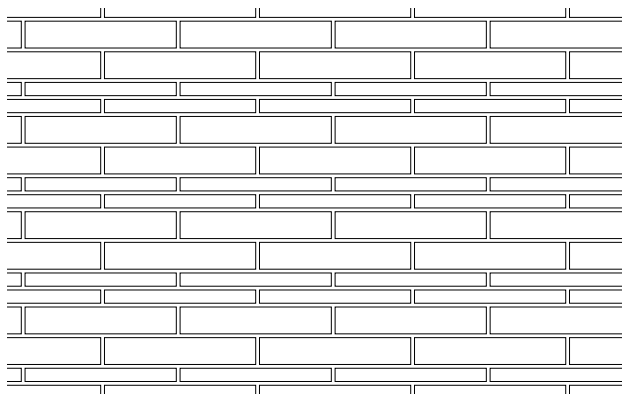
NF stretcher bond 1/4 offset, vertical



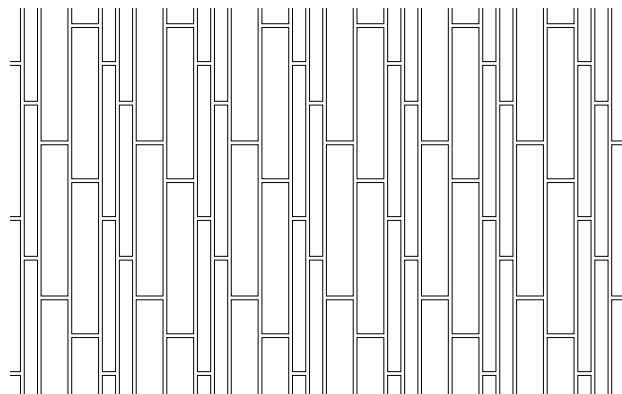
DF LF stretcher bond 1/2 offset, horizontal



DF LF stretcher bond 1/4 offset, vertical



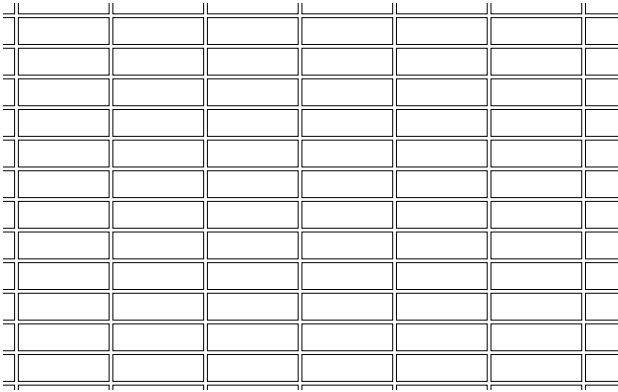
Combination of two format heights (LF and RF), horizontal



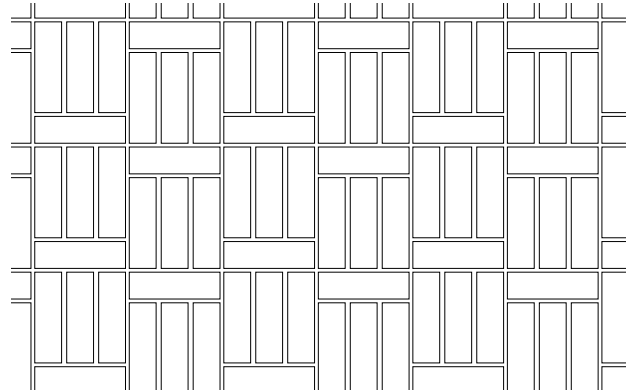
Combination of two format heights (LF and RF), vertical

You can download these bonds and more at
www.stobrick.de

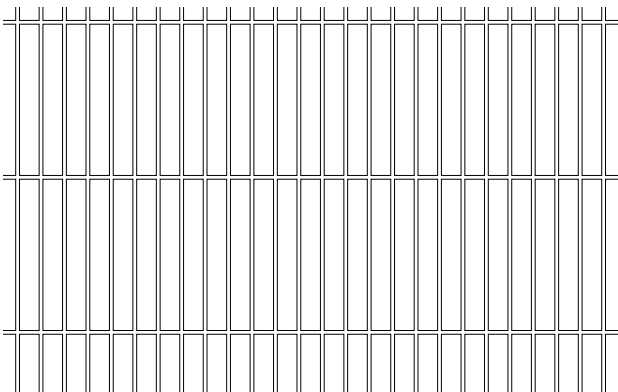
Formats used:
NF = 71 x 240 mm, LF = 71 x 400 mm, DF LF =
52 x 440 mm, RF = 35 x 400 mm



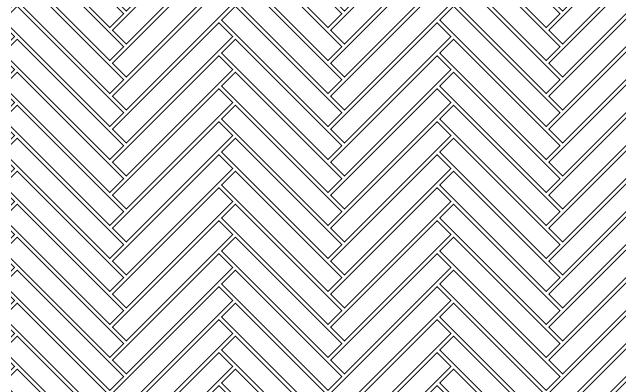
NF stack bond, horizontal



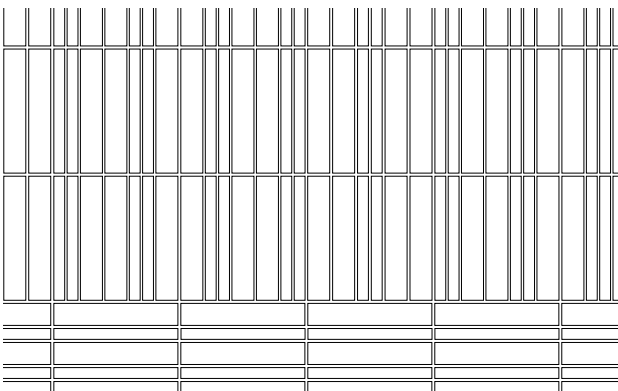
NF single basket weave bond, horizontal and vertical



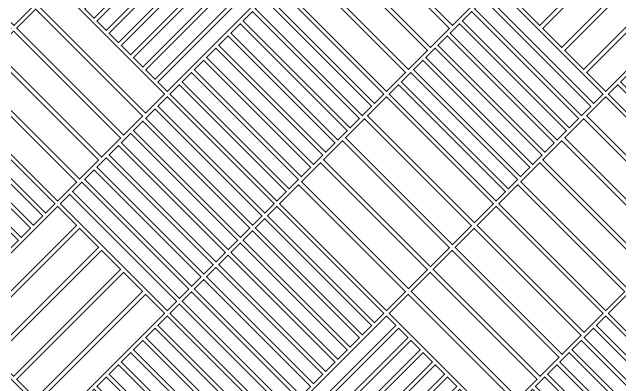
DF LF stack bond, vertical



DF LF herringbone bond, horizontal and vertical

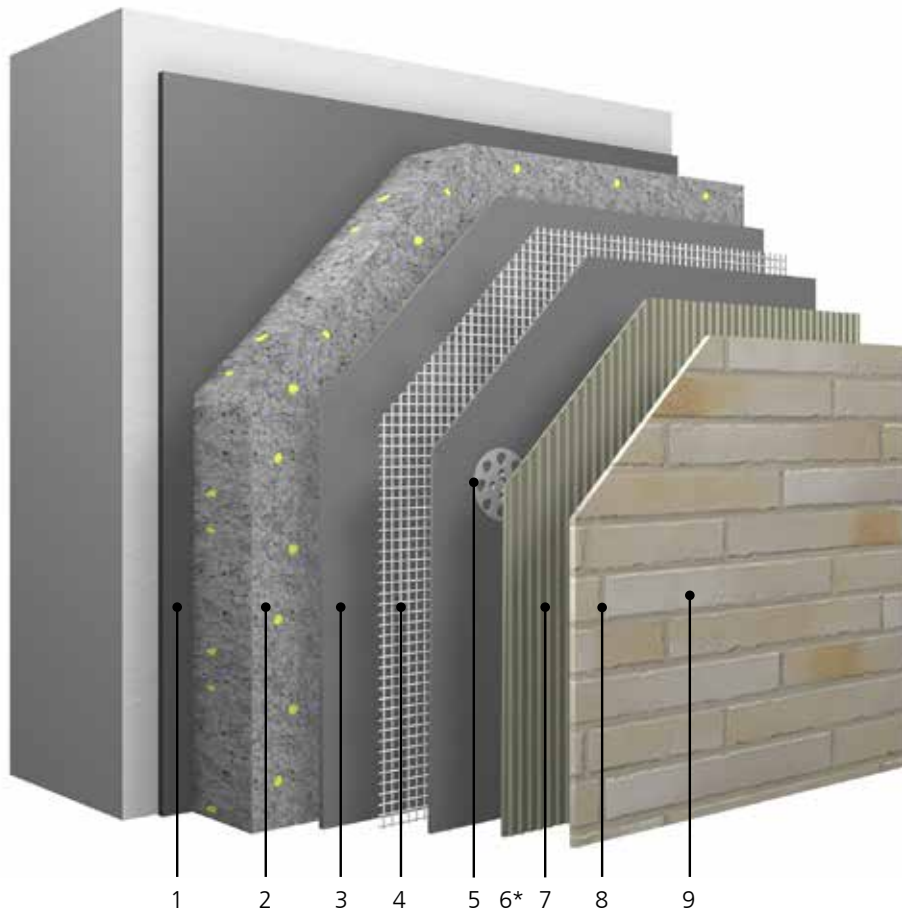


Combination of two format heights (LF and RF) as stack bond
horizontal and vertical



Combination of two format heights (LF and RF) as stack bond
horizontal and vertical, rotated

Reliability



System build-up

1 Adhesive; 2 Insulation; 3 Base coat; 4 Reinforcement; 5 Fixing; 6* Mineral smoothing coat if required (* not shown); 7 Adhesive; 8 Pointing mortar; 9 Brick slips



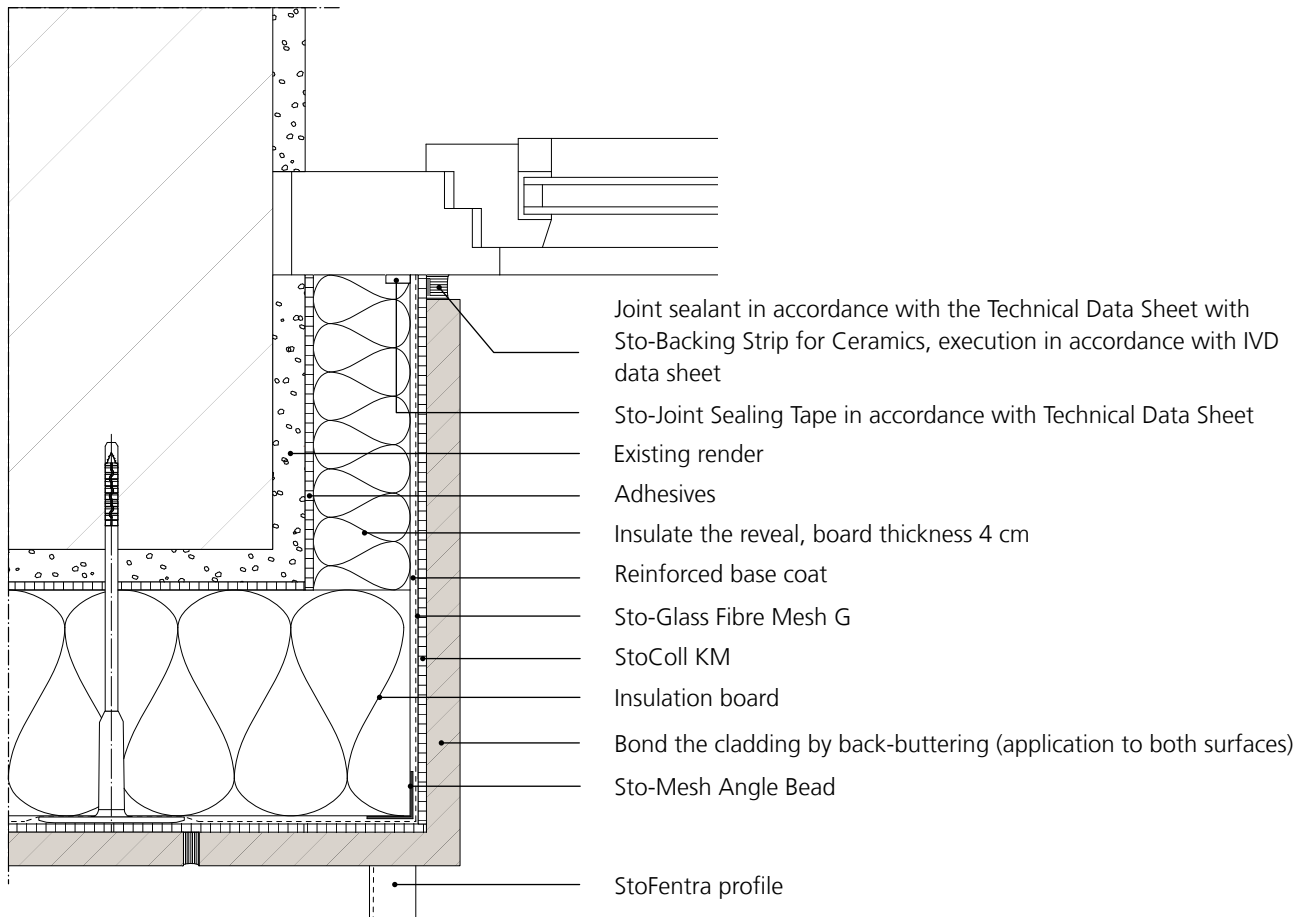
Videos on EWIS installation with rigid facade claddings

Tested systems

Reaction to fire:

- StoTherm Vario (insulation: polystyrene): fire classification B-s1, d0 in accordance with EN 13501-1
- StoTherm Mineral (insulation: mineral wool): fire classification A2-s1, d0 in accordance with EN 13501-1
- National technical approval: Z-33.46-422

- Ageing tests using hygrothermal weathering have been carried out on all system configurations offered
- Practical experience gained since 1994
- All system components subject to constant quality control
- Constant monitoring



Construction detail

Connecting the reveal to a set-back window using joint sealant

Extensive planning data

- The following information is available online:
- Construction details for all standard solutions
 - Tileable image data for the bricks

Personal consultation

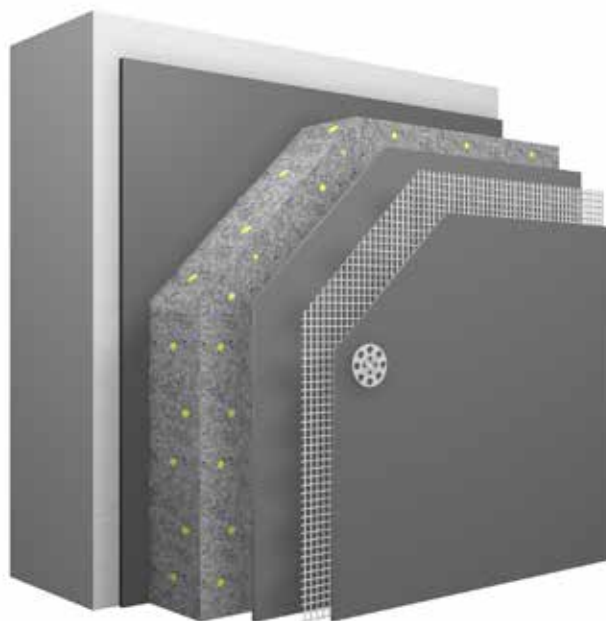
Our team of advisors – comprising project managers, sales advisors, and technical advisors – will support you throughout all planning phases, including sampling, detailing, tendering, and applicator training.

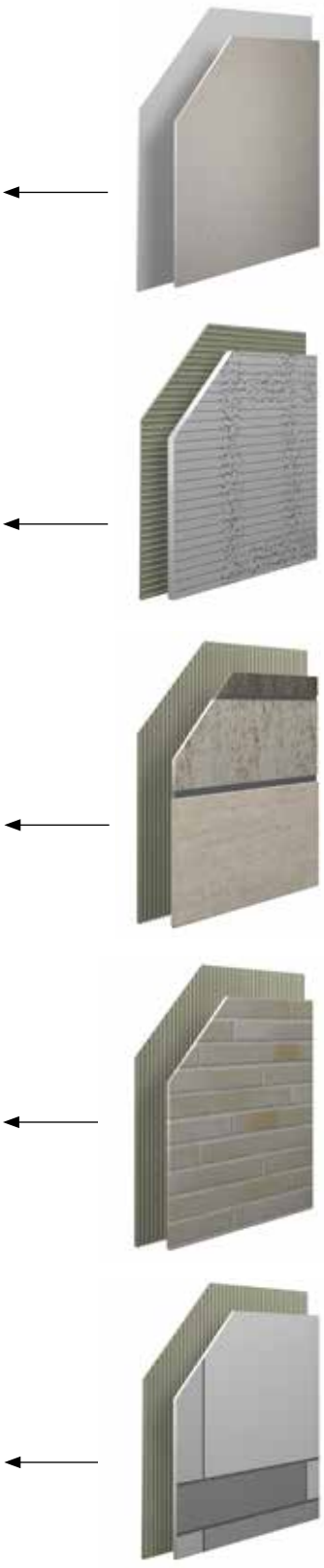
The team of advisors is in turn supported by the EWIS experts from our technical project service.

One insulation system, many options

External wall insulation systems are applied to approximately 170 million m² of facade surface throughout Europe each year. They not only contribute significantly to the building's energy efficiency but also offer numerous options for decorating the facade surface.

The StoBrick elements showcased in this brochure are just one way of customising your EWIS facade.





Render

Our seamless coating comes in a vast range of colours and textures, offering a multitude of design options.



Three-dimensional facade elements

For three-dimensional facade decoration, we can produce sculptural shapes, ledges, and panels from our Verolith material to apply to EWIS in accordance with your design.



Natural stone slab

Limestones from our own quarries in Germany are available in modular formats to offer you an individual and economically viable way of decorating your facade using stone.



Bricks

The StoBrick range has five groups of brick and high-density brick to offer you a superb selection of masonry for your project.



Prefabricated render elements

Sto-Ecoshapes are prefabricated render elements that can be individually designed. The material with up to 90 % mineral-based content can also be used to clad facades which are curved on one side.



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